

Dendrobates tinctorius
(2 White morph variants)

AMERICAN DENDROBATID GROUP

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STATEMENT OF PURPOSE

The purpose of the American Dendrobatid Group (ADG) is to educate enthusiasts and distribute information on all aspects of Dendrobatid husbandry and captive propagation, and to develop better communication between Dendrobatid breeders. The ADG is also interested in the maintenance and propagation of Mantellid frogs, Atelopid toads, and other unusual frogs and toads. Its format and bi-monthly distribution are designed to provide current information and new developments in the hobby. This Newsletter appears six times a year at a cost \$15.00 per calendar year. Back issues for \$3.00 each, or on a yearly basis: 1992 is available for \$5.00; 1993 and 1994 for \$10.00/year, and 1995 for \$12.50.

Subscriptions, comments, articles, photographs, etc. should be sent to Charles Powell (2932 Sunburst Dr., San Jose, CA 95111 Tel.: (408) 363-0926).

Variations in growth of *Dendrobates auratus* tadpoles using different foods

Paul Bolognese
New York

How would tadpole growth be effected by using various food in *Dendrobates auratus*? The results presented here are based on tadpoles from a single pair of *Dendrobates auratus* and from the same clutch. The parents of my pair of *Dendrobates auratus* originally came from Costa Rica. My frogs are fed a varied diet of one week old crickets, fruit flies, and rice beetles and were raised by me from zoo bred babies. The 10-gallon terrarium I use for them is covered by a screen top which is in turn covered by plastic except for two 2"x5" strips at the front and back. A layer of pea gravel, two to two and a half inches deep makes up the base of the substrate. On top of about 2/3's of the gravel is placed a layer of wet peat moss. To keep the peat from mixing with the gravel a thin layer of plastic wrap is placed between the two layers. The remaining 1/3 of the terrarium is occupied by a small waterfall made of red shale directly on top of the gravel. Flexible tubing attached to a Minijet® submersible pump by Aquarium Systems is used to direct the water to the top of the approximately seven-inch tall waterfall. The waterfall maintains high humidity (80-90%) so misting is not necessary. The tank is moderately planted with one small *Pothos* and one small *Philodendron* at opposite corners of the peat area directly into the soil. The temperature is maintained at 74°F to 78°F and a vitalight is kept on for 14 hours a day starting at 7 AM. The light fixture is placed directly on top of the tank lid.

I have two frog houses, one at either end of the tank, made from the bottom of 2-liter Pepsi bottles and floored by petri dishes. The frogs lay eggs alternately in both houses

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and have a clutch size of five to seven eggs. When the eggs are laid I usually remove them four or five days before they hatch, (which generally takes 14 to 18 days). My male calls for two days before a clutch is laid and is then quiet for 8 days until he is ready to breed again. After I remove the eggs I place the clutch in a small plastic container with 0.25" of water in it for when the larva free themselves from the jelly mass. Each tadpole is then place in a three ounce plastic cup filled half-way with day old (or older) tap water. I do this to allow the chlorine to evaporate from the water. Thanks to my wife, Mary Ann, the cups are placed between the sets of burner on the kitchen stove. The heat from the pilots helps to raise the water temperature a few degrees. This helps to offset the cold Buffalo winters. The cups are removed, of course, when we use the stove for cooking. With the above methods it takes, roughly seven or eight weeks for the tadpoles to develop into frogs.

Procedure

Now to the heart of the matter - I fed two tadpoles a mixture of beef liver and mosquito larvae flake food mixed together in equal portions (Tetra FD-Menu Special food). A third tadpoles was given Formula One frozen fish food from Ocean Nutrition which is designed for all marine fish. A fourth tadpole was given Formula Two by Ocean Nutrition which is designed for algae eating fish with a high protein content. The fifth (and final) tadpole was given Ocean Nutrition Formula VHP (very high protein), a frozen food for all marine fish. Shavings of each frozen food was given the designated tadpoles daily. Tadpoles given flake food were feed more (by volume) and all tadpoles had water changes every second day.

Results

The emergence of the front legs occurred within one day for all five tadpoles and all tadpoles developed into healthy froglets. The tadpoles feed flake food were smaller than the remaining three froglets. The remaining three tadpoles were visually larger as follows: the Formula 2 fed froglet was slightly larger; the Formula 1 froglet was slightly larger than the Formula 2 froglet; and the VHP fed froglet was larger still. Each froglet can still be distinguished from the others after seven weeks. These results were carried out in the same manner with two subsequent sets of five tadpoles with the same results.

In conclusion I feel that feeding *Dendrobates auratus* tadpoles high protein frozen fish food appears to produce larger, healthier froglets. If anyone has found similar or opposing results I would be interested in seeing your results in a future Newsletter.

Tadpoles

Marco Esposito

Reprinted with permission from the British Dendrobatid Group Newsletter, No. 24:

Until recently, I had always raised *Dendrobates auratus* tadpoles separately in a floating basket system [see The Vivarium, 2(1)]. Briefly, this involves a plastic seed tray split into cubicles measuring 2" x 2" x 2" (5 cm x 5 cm x 5 cm). The bottom of each compartment is cut away and replaced with gauze. By glueing polystyrene along each side

of the tray, the cubicles float in a washing-up bowl filled with 5" (12 cm) depth of water. Underneath the floating compartments, in the bottom of the washing-up bowl, is a polyfoam biological filter. One tadpole is placed in each compartment and their waste drops through the gauze into the bottom of the bowl where it is neutralized by the filter. The system works well and with little maintenance. With the filter working I did not change the water at all, but simply topped up with aged water to counteract evaporation.

One day I noticed that a tadpole had escaped its compartment and was swimming around freely in the bottom of the bowl. I decided to leave it and continued feeding one small pinch of food into each compartment for each tadpole nightly. The escapee grew much larger than those in the cubicles, and the resulting froglet measured a full 200 mm compared with the 150 mm froglets from the confined tadpoles.

I raised the next clutch of *D. auratus* tadpoles communally in a washing-up bowl 14" x 10" x 6" (35 cm x 25 cm x 15 cm) with a water depth of 5" (12 cm) and no filtration. I simply fill it up with aged water when necessary. I added some Elodea and pieces of bark for hiding places and once again the resulting froglets were all much larger than those from the previous system. I continued experimenting by raising seven tadpoles together from two separate clutches, and, to my surprise, experienced no cannibalism whatsoever. The two sets of tadpoles were developing well, the older one having now grown back legs. I was beginning to doubt whether *D. auratus* tadpoles were cannibalistic at all. I finally came unstuck when I added just one small tadpole, four weeks old, from a third clutch. To my amazement, this younger and smaller tadpole attacked and killed all of the seven larger tadpoles over a period of four days. On close inspection, the dead tadpoles all had several tiny wounds covered in white fungus, although the small aggressive tadpole showed no interest in actually eating them.

As all of the tadpoles had come from a breeding colony of five adults, it is impossible to say whether the first two clutches were from identical parents - hence no cannibalism, and aggressive tadpoles from different parentage. Either way, to be on the safe side, I am now raising the tadpoles communally, but only one clutch to a bowl.

HELPFUL HINTS

This issue's "Helpful Hint" comes from John Lewis of Kentucky:

I recently set-up a new 20-gallon terrarium to house young *Dendrobates auratus*. For filtration and to help increase humidity I choose a Duetto multi-filter by Aquarium Systems. I later learned that Aquarium Systems offers a special bracket (part no. 00.48.006) to hold a VisiTherm submersible heater; this bracket is very difficult to find in any pet store. The combination I use is a DJ/100C Duetto filter and a VisiTherm 100w heated in about 4.5 gallons of water. This is overkill in filtering and heating, but the filter can adjust water flow and the heater has a thermostat so the desired temperature can be maintained even with such a small amount of water. This combination can also be used in other creative ways, for instance, the filter can be used with a timer to create periodic showers, or by only using the heater to create a day/night temperature difference. Plan your set-up so the filter is accessible and make sure the heater is covered so frogs will not sit on it and get burned. I placed a piece of cork bark over the filter and heater so the frogs would have difficulty

reaching the filter intake or heater.

Recently, as I was reaching for produce in my local grocery store, I discovered a misting system. The company's name, as displayed on some of the piping, was Corrigan Corporation (1-800-462-6478). When I contacted the company and explained my intentions (misting for tropical frogs), they were very friendly and willing to send me a catalog containing information and pricing on their product line. Their products are designed for large scale operations and would not be suitable for individual tanks, but if you are considering building a frog room of considerable size or raising frogs in a greenhouse (i.e., Timothy Staab in ADG Newsletter 23) then this catalog could be very helpful.

NEW LITERATURE

Dendrobatids

Birkhahn, Von Holger, Külpmann, Volker, and Wassmann, Klaus, 1994, Zur variabilität des gold-baumsteigers. Datz Aquarien Terrarien, 9/94: 570-576.


Murphy, John C., 1996, Glow in the dark lizards? Reptiles, 4(4): 32-34, 36-38, 40 (photographs of *Mannophryne trinitatis*).

Wenzel, Von K.-H., 1994, Bermerkungen zum Pfeilgift der Indianer an der Pazifikküste Kolumbiens (Departamento Chicó). Z. Jagdwiss, 40: 204-209.

ADS:

Rates for business card adds are \$10 per issue or \$50 per year. If you are interested please contact the Newsletter editor.

REPTILE SPECIALTIE (John Uhern, 7473 Foothill, Tujunga, CA 91042 Tel. (818) 352-1796; Fax (818) 353-7381) has various captive breed Dendrobatids and wild imported Mantella for sale. Write or call for information.

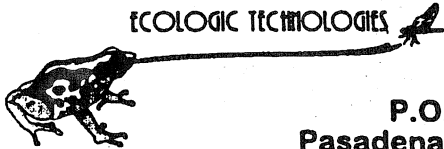


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For Sale

Ads for sale of frogs, or requests or offering of breeding loans, etc. are free to members and will run for two issues only, unless the Newsletter editor is notified.

Dendrobates tinctorius 'cobalt,' 'giant orange,' and 'white,' and some *Dendrobates azureus*. Ted R. Kahn (P. O. Box 1375, Sterling, VA 20164-1375. Tel.: (703) 242-4543.

<i>Dendrobates auratus</i> 'El Copé, Panama'	\$35 ea.	Anthony Leiro
<i>Dendrobates leucomelas</i>	\$45 ea.	402 Holly Lane
<i>Dendrobates tinctorius</i> 'cobalt'	\$50 ea.	Chapel Hill, NC 27514
		(919) 929-3522

<i>Epipedobates tricolor</i> (wine red with blue)	\$35 ea.	Peter Fippinger
<i>Phylllobates vittatus</i>	\$45 ea.	2535 Clermont St.
		Denver, CO 80207
		(303) 399-5684

<i>Dendrobates tinctorius</i> 'French Guyana'	\$45 ea.	Kay Clausing
adults		510 Stratford Ct., 308A
		Del Mar, CA 92014
		(619) 550-7574

<i>Dendrobates reticulatus</i> c.b.	\$35 ea.	Jane Merkel
<i>Epipedobates tricolor</i> (maroon with blue)	\$25 ea.	3407 Manhattan Ave.
<i>Mantella aurantiaca</i> (2 adults)	\$15 ea.	St. Louis, MO 63143
		(314) 644-3705

<i>Dendrobates auratus</i> 'Costa Rica'	\$25 ea.	Eric Pflaging
<i>Dendrobates leucomelas</i>	\$60 ea.	Hillside Herps
10% discount for ADG members		220 Hillside Dr.
		Clermont, FL 34711
		(904) 242-1616

Established animals:		Charles L. Powell
<i>Mantella expectata</i> (yellow or orange)	\$35 ea .	2932 Sunburst Dr.
<i>Mantella pulchra</i> 'green' (2)	\$35 ea.	San Jose, CA 95111
<i>Mantella haraldmeieri</i>	\$35 ea .	(408) 363-0926

will consider trades for the mantellas

Tadpoles:	
<i>Dendrobates auratus</i> 'Zwartgroene'	\$35 ea.
<i>Dendrobates reticulatus</i>	\$30 ea.
<i>Dendrobates ventrimaculatus</i>	
"Peru/orange"	\$60 ea.

Wanted:

Dendrobates fantasticus- males (2)
Dendrobates tinctorius 'giant orange'

Juan Casanova
813 N.W. 23 Ct.
Miami, FL 33125
(305) 642-9694

Epipedobates tricolor - female

Odo N. Dieter
369 Acorn Ave.
Telford, PA 18969
Home: (215) 721-0329
Work: (215) 393-8600

Dendrobates lehmanni
Phyllobates terribilis

Anthony Hundt
P. O. Box 284
Ottawa, IL 61350
(815) 433-4679 (Monday, Thursday, Friday,
Saturday, after 5:30 PM CST)
thundt@rs232.bb-elec.com

Epipedobates tricolor (chocolate brown with three lime green stripes, light green marbled belly and red flash marks on the hind legs). Females wanted for purchase or breeding loan. Contact John Lewis (717 Bromley Rd., Bromley, KY 41017. Tel.: (606) 344-8796).

Dendrobates imitator 'green' - female
Dendrobates azureus - female
will buy or trade

Eric Flagging
Hillside Herps
220 Hillside Dr.
Clermont, FL 34711
(904) 242-1616

Dendrobates fantasticus - male

Charles Powell
2932 Sunburst Dr.
San Jose, CA 95111-2264
(408) 363-0926

Dendrobates tinctorius 'cobalt' - male
Any information or photographs of
D. occultator

Blake Wood
6508 South 250th East Ave.
Broken Arrow, OK 74014
(918) 357-2034
FAX (918) 357-2657

SOCIETIES

AMERICAN TARANTULA SOCIETY: For enthusiasts and scientists. Forum magazine (6/yr) educational, entertaining and readable. Over 150 Accurate scientific & common names of tarantulas and scorpions in each issue. Contact: ATS, P. O. Box 2594, S. Padre Island, TX 78597. \$15/year US, \$20 Canada, \$30 elsewhere.

CHAMELEON INFORMATION NETWORK: The CiN is a member supported organization with an interest in the old world family of Chamaeleonidae. It publishes a quarterly publication (The CiN Newsletter) for \$12/4 issues, \$22/8 issues. Foreign subscribers add \$1.50 for each issue. For subscription information contact: Ken Kalisch, 412 West E St., Encinitas, CA 92024. Tel.: (619) 436-7978. Send all payments to: Ardi Abate, 13419 Appalachian Way, San Diego, CA 92129.

INTERNATIONAL HYLID SOCIETY: A new, non-profit organization dedicated to treefrogs enthusiasts worldwide. "The Bulletin of the International Hylid Society" will be published quarterly starting in January/February 1996. Membership is \$15/calendar year. For information or membership contact: William Brown, Amphibian Conservation and Research Center, 1423 Alabama St., Lafayette, IN 47905 USA. Tel: (317) 742-5331; e-mail: 102436.2415@compuserve.com.

NEW MEMBERS

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Melissa Gagliardo (Florida)
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Philip Mutino (New York)
Mike Petrovich (Florida)
Jessica Powell (Ohio)
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Roger Rosscoe (National Zoological Park, Washington, D. C.)
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